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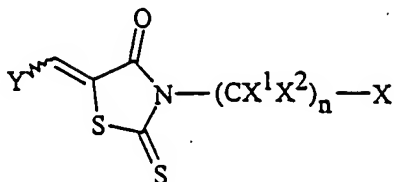
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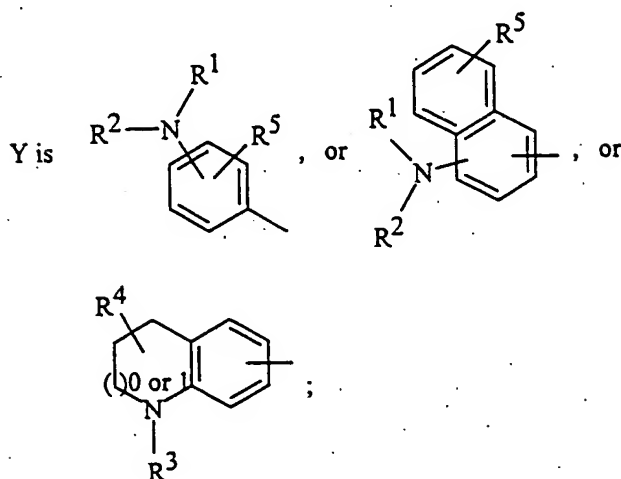
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CLAIMS

What is claimed is:

1. A compound having the Formula I:



- 5 or a pharmaceutically acceptable salts thereof,
wherein:

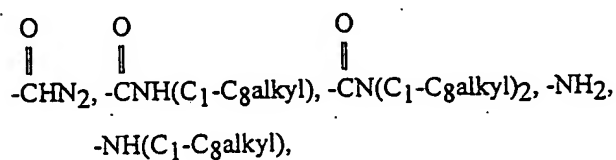


each n is independently 1 to 3 inclusive;

- 10 X^1 and X^2 are independently hydrogen or C_1 - C_8 alkyl, or $-(\text{CH}_2)_y-\text{Z}$;

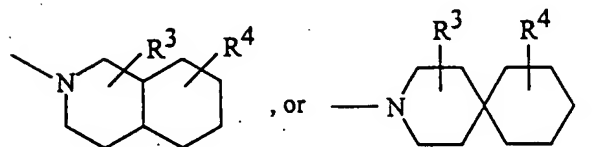
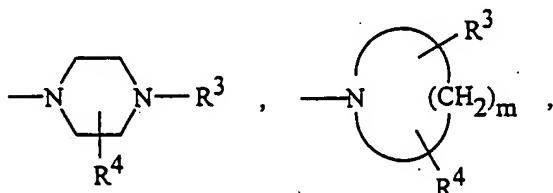
y is 0 to 4 inclusive;

Z is hydrogen, C_1 - C_8 alkyl, C_3 - C_8 cycloalkyl, C_1 - C_8 perfluoroalkyl,
 C_2 - C_8 alkenyl, phenyl, substituted phenyl, naphthyl, substituted
naphthyl, -OH, - OC_1 - C_8 alkyl, - SC_1 - C_8 alkyl, - SO_3H , - CO_2H ,
15 - CO_2C_1 - C_8 alkyl,



O
||
-N(C₁-C₈alkyl)₂, -NCC₁-C₈ alkyl, guanidiny, thienyl, imidazolyl,
thiazolyl, or indolyl;

5 R¹ and R² are independently C₁-C₈alkyl or -(CH₂)_n-C₃-C₆cycloalkyl,
-(CH₂)_n-phenyl, or R¹ and R² taken together with the nitrogen
atom to which they are attached form a cyclic structure selected
from



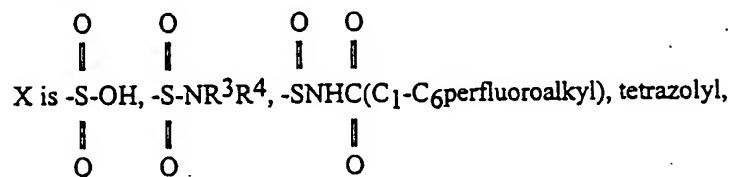
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where R³ and R⁴ independently are hydrogen, C₁-C₈ alkyl, -(CH₂)_n-
phenyl, or -(CH₂)_n cycloalkyl;

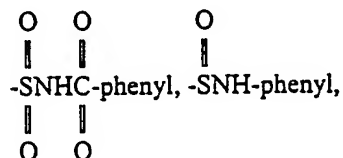
R⁵ is hydrogen, C₁-C₈ alkyl, halogen, or -CF₃;

each m is 2 to 8 inclusive;

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wherein phenyl includes substituted phenyl.

2. A compound in accordance with Claim 1 wherein R¹ is methyl, and R² is pentyl or hexyl.

3. A compound in accordance with Claim 1 wherein the $\begin{array}{c} R^1 \\ \diagdown \\ N \\ \diagup \\ R^2 \end{array}$ group is

located at the para position on the phenyl ring.

4. The compounds:

- (Z) 2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid ;
- 5 (Z) 2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid methylamide;
- (Z) 2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid trifluoroacetyl-amide;
- (Z) 2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-N-methyl-acetamide;
- 10 (Z) N-({5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-methanesulfonamide;
- (Z) N-{5-[4-(Dipentylamino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl}-methanesulfonamide;
- (Z) C,C,C-Trifluoro-N-({5-[4-(hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-methanesulfonamide;
- 15 (Z) N-{5-[4-(Dipentylamino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl}-C,C,C-trifluoro-methanesulfonamide;
- (Z) N-(2-{5-[4-(hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-benzenesulfonamide;
- 20 (Z) N-(2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethyl)-methanesulfonamide;
- (Z) N-(2-{5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethyl)-benzenesulfonamide;
- (Z) C,C,C-Trifluoro-N-(2-{5-[4-(hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethyl)-methanesulfonamide;
- 25 (Z) 2,2,2-Trifluoro-N-(2-{5-[4-(hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethyl)-acetamide;
- (Z) N-(2-{5-[4-Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}ethyl)-acetamide;
- 30 (Z) {5-[4-(Hexyl-methyl-amino)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-methanesulfonic acid;

(Z) 5-[4-(Hexyl-methyl-amino)-benzylidene]-3-(1H-tetrazol-5-ylmethyl)-2-thioxo-thiazolidin-4-one;

(Z) 5-(4-Dipentylamino-benzylidene)-3-(1H-tetrazol-5-ylmethyl)-2-thioxo-thiazolidin-4-one;

5 (Z) N-{{5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-C,C,C-trifluoro-methanesulfonamide;

(Z) N-{{5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-benzenesulfonamide;

10 (Z) 5-(4-Dibutylamino-benzylidene)-3-(1H-tetrazol-5-ylmethyl)-2-thioxo-thiazolidin-4-one;

(Z) N-{2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-methanesulfonamide;

(Z) N-{2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-benzenesulfonamide;

15 (Z) 5-[(4aS,8aR)-4-(Octahydro-isoquinolin-2-yl)-benzylidene]-3-(1H-tetrazol-5-ylmethyl)-2-thioxo-thiazolidin-4-one;

(Z) N-(2-{5-[(4aS,8aR)-4-(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-benzenesulfonamide;

20 (Z) N-{2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-4-fluoro-benzenesulfonamide;

(Z) 2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid 4-fluoro-benzoylamide;

25 (Z) N-{2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-acetyl}-4-fluoro-benzenesulfonamide;

(Z) 2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid benzoylamide;

(Z) 2-{5-[4-(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid benzoylamide;

30 (Z) 2-{5-[4-(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid 4-fluoro-benzoylamide;

(Z) 2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid 4-fluoro-benzoylamide;

(Z) 3-(5-Hydroxy-4-oxo-4H-pyran-2-ylmethyl)-5-[4-(octahydro-isoquinolin-2-yl)-benzylidene]-2-thioxo-thiazolidin-4-one;

(Z) 5-(4-Dibutylamino-benzylidene)-3-(5-hydroxy-4-oxo-4H-pyran-2-ylmethyl)-2-thioxo-thiazolidin-4-one;

5 (Z) 3-(5-Hydroxy-4-oxo-4H-pyran-2-ylmethyl)-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-4-one;

(Z) 5-[4[(4-Propyl-piperidin-1-yl)-benzylidene]-3-(1H-tetrazol-5-ylmethyl)-2-thioxo-thiazolidin-4-one;

10 (Z) N-(2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-acetyl)-benzenesulfonamide;

(Z) N-(2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-acetyl)-methanesulfonamide;

15 (Z) 4-Fluoro-N-(2-{5-[(4aS,8aR)-4-(octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-benzenesulfonamide;

(Z) 4-Fluoro-N-(2-{4-oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-acetyl)-benzenesulfonamide;

(Z) 2-[5-(4-Hexyl-methyl-amino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid 4-fluoro-benzoylamide;

20 (Z) N-({5-[4[(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-methanesulfonamide;

(Z) N-({5-[4[(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl}-acetyl)-C,C,C-trifluoro-methanesulfonamide;

25 (Z) N-(2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-acetyl)-C,C,C-trifluoro-methanesulfonamide;

(Z) 2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid methylamide;

(Z) 2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid methylamide;

30 (Z) 2-[5-(4-Hexyl-methyl-amino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid methylamide;

(Z) N-2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid methylamide;

- (Z) 2-{5-[4-(octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl} S-ethanesulfonic acid methylamide;
- (Z) 2-{5-[4-(Octahydro-isoquinolin-2-yl)-benzylidene]-4-oxo-2-thioxo-thiazolidin-3-yl} S-ethanesulfonic acid trifluoroacetylamide;
- 5 (Z) N-2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid trifluoroacetylamide;
- (Z) 2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid trifluoroacetylamide;
- (Z) 2-[5-(4-Dibutylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid trifluoroacetylamide;
- 10 (Z) 2-[5-(4-Dipentylamino-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid benzoylamide;
- (Z) 2-[5-(4-Hexyl-methyl-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid benzoylamide;
- 15 (Z) N-2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid benzoylamide;
- (Z) N-2-{4-Oxo-5-[4-(4-propyl-piperidin-1-yl)-benzylidene]-2-thioxo-thiazolidin-3-yl}-ethanesulfonic acid 4-fluoro-benzoylamide;
- (Z) 2-[5-(4-Hexyl-methyl-benzylidene)-4-oxo-2-thioxo-thiazolidin-3-yl]-ethanesulfonic acid 4-fluoro-benzoylamide;
- 20 (Z) [5-(4-Hexyl-methyl-amino)-benzylidene]-3-(5-oxo-4,5-dihydro-[1,2,4]oxadiazol-3-ylmethyl)-2-thioxo-thiazolidin-4-one;
- (Z) [5-(4-Propyl-piperidin-1-yl)-benzylidene]-3-(5-oxo-4,5-dihydro-[1,2,4]oxadiazol-3-ylmethyl)-2-thioxo-thiazolidin-4-one;
- 25 (Z) [5-(4-Octahydro-isoquinolin-2-yl)-benzylidene]-3-(5-oxo-4,5-dihydro-[1,2,4]oxadiazol-3-ylmethyl)-2-thioxo-thiazolidin-4-one;
- (Z) 5-(4-Dipentylamino-benzylidene)-3-(5-oxo-4,5-dihydro-[1,2,4]oxadiazol-3-ylmethyl)-2-thioxo-thiazolidin-4-one; or
- (Z) 5-(4-Dibutylamino-benzylidene)-3-(5-oxo-4,5-dihydro-[1,2,4]oxadiazol-3-ylmethyl)-2-thioxo-thiazolidin-4-one.
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5. A pharmaceutical composition comprising a compound of Claim 1.

6. A method of treating Alzheimer's disease, the method comprising administering to a patient having Alzheimer's disease a therapeutically effective amount of a compound of Claim 1.
- 5 7. A method of inhibiting the aggregation of amyloid proteins to form amyloid deposits, the method comprising administering to a patient in need of inhibition of the aggregation of amyloid proteins an amyloid protein aggregation inhibiting amount of a compound of Claim 1.
8. A method of imaging amyloid deposits, the method comprising the steps of:
 - 10 a. introducing into a patient a detectable quantity of a labeled compound of Claim 1;
 - b. allowing sufficient time for the labeled compound to become associated with amyloid deposits; and
 - 15 c. detecting the labeled compound associated with the amyloid deposits.
9. The method of Claim 8 wherein the patient has or is suspected to have Alzheimer's disease.
10. The method of Claim 8 wherein the labeled compound is a radiolabeled compound.
- 20 11. The method of Claim 8 herein the labeled compound is detected using MRI.